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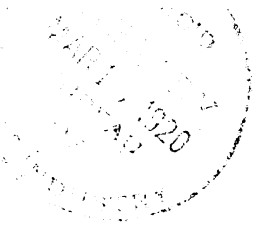

PLANT IMMIGRANTS.

No. 164. DECEMBER, 1919.

GENERA REPRESENTED IN THIS NUMBER.

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251. A perfect-flowered form of the yangtao (*Actinidia chinensis*).

252. A new variety of the papaya (*Carica papaya*).

Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by agricultural explorers and foreign correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,
Agricultural Explorer in Charge

Office of Foreign Seed and Plant Introduction,
Bureau of Plant Industry,
U. S. Department of Agriculture.

Issued January 20, 1920. Washington, D.C.

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Alectryon excelsum (Sapindaceae), 48164. From Auckland, New Zealand. Seeds presented by Mr. H. R. Wright. "A handsome, evergreen tree, commonly called the New Zealand oak." (Wright.)

A tree 30 to 60 feet high, with black bark, and with the young branches, undersurfaces of the compound leaves, panicled inflorescence, and capsules clothed with silky ferruginous pubescence. The globose shining jet-black seeds, from which the Maoris formerly extracted an oil, are half imbedded in a scarlet, fleshy, cup-shaped aril. The tree yields a tough, elastic timber valuable for ax handles. (Adapted from Cheeseman, Manual of the New Zealand Flora, p. 103.)

For previous introduction see S. P. I. No. 24876.

Avena sativa (Poaceae), 48088. **Oats.** From Johannesburg, Transvaal. Purchased from the Agricultural Supply Association, through Mr. J. Burtt-Davy, botanist. "Boer Oats. The principal oats grown for forage, i.e., oat hay, before the Anglo-Boer War, and valued for the fineness of its straw. Almost ousted by the Algerian oat, and now very rare. Boer oats always contain some black oats among the brown. The glumes have a characteristic roughness which readily distinguishes this variety from Algerian oats. Grown under irrigation." (Burtt-Davy.)

For previous introduction see S. P. I. No. 13968.

Avena sativa (Poaceae), 48109. **Oats.** From Melbourne, Victoria. Presented by Prof. A. E. V. Richardson, agricultural superintendent. "Ruakura. A rust-resistant oat developed from a single plant of Argentine oats selected by Primrose McConnell, of the Ruakura Experiment Farm, New Zealand, in 1908. This variety appears to be resistant to both stem and crown rust in the United States, but experiments here indicate that it has little commercial value. It is of probable interest to plant breeders." (C. W. Warburton.)

"It has never been claimed that the new oat is rustproof. What can be claimed is that it is the most resistant to disease of all the varieties tested at Ruakura." (Journal of Agriculture, New Zealand, vol. 6, p. 133.)

"This oat was imported from New Zealand, it having originated as a variation in a crop of Argentine oats at the Ruakura Experiment Farm, in the Dominion. It is claimed that it is rust resistant and a wonderful yielder. It has not been tried sufficiently long

in this state to allow of any further comment, except that when sown beside Algerian, on the south coast this season, it promised particularly well, and compared more than favorably with that variety from a green-fodder point of view." (Agricultural Gazette, New South Wales, vol. 25, p. 1018.)

Capsicum annuum (Solanaceae), 48161. From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, director, Agricultural Experiment Station. "This pepper is grown in Cuba under the name of Creole. The beautiful golden yellow fruit is about 3 inches long by 2 inches thick. The flavor is quite mild." (Peter Bisset.)

Decaisnea fargesii (Lardizabalaceae), 48152. From Rochester, N. Y. Presented by Mr. John Dunbar, assistant superintendent of parks. "A very attractive ornamental shrub reminding me somewhat of the Oregon grape (*Berberis aquifolium*) in habit. From E. H. Wilson's collection." (Fairchild.)

An erect shrub, 7 to 16 feet in height, very common in moist woods and thickets in western Hupeh and in Szechwan between 2,000 and 8,500 feet in altitude. The deep-blue fruit contains a white pulp in which are imbedded the numerous, flattened, jet-black seeds. The pulp is edible, but of insipid flavor. The fruits are commonly eaten by monkeys on Mt. Omei and elsewhere in that region. (Adapted from Sargent, Plantae Wilsonianae, vol. 1, p. 344.)

Diospyros sp. (Diospyraceae), 48162. **Persimmon.** From Puerto Bertoni, Paraguay. Seeds presented by Dr. M. Bertoni. "Kaki silvestre. A species of Diospyros, indigenous to the forests of eastern Paraguay, and commonly found in rocky places in the open woods on the banks of the Rio Parana. It is a small tree, 20 to 26 feet high, and quite leafy; it produces a great abundance of almost spherical fruits, about an inch in diameter, which mature in autumn. The tree apparently does not suffer from the effects of temperatures above -3° C. [27° F.] It could possibly be used advantageously as a stock with *Diospyros kaki*." (Bertoni.)

Entelea arborescens (Tiliaceae), 48165. From Auckland, New Zealand. Seeds presented by Mr. H. R. Wright. One of the handsomest of small trees, which was once common along the north coast of North Island. In some

places this tree is called the New Zealand mulberry, on account of the large, heart-shaped leaves which are beautifully veined, soft, and fade quickly when gathered. The pure white flowers, with crumpled petals, are produced in large drooping clusters, each single blossom being about an inch in diameter. The fruit is dark brown and rough, with inch-long bristles. The wood is remarkably light, and was used by the Maoris for floats for their fishing nets and in the construction of small rafts. It is about half the weight of cork, and is sometimes termed the cork-wood tree. It has been suggested that it might be utilized for life-belts. (Adapted from Laing and Blackwell, Plants of New Zealand, p. 242.)

For previous introduction, see S. P. I. No. 46749, Plant Immigrants, No. 153, January, 1919, p. 1389.

Eugenia sp. (Myrtaceae), 48083. From Sawtelle, Calif. Seeds presented by Mr. P. D. Barnhart. "An interesting Eugenia, from South America, especially valuable for ornamental planting in California and Florida. It is evergreen, with small, glossy, dark green leaves. The young leaves and twigs are a beautiful red. The plants lend themselves to shearing and will make excellent hedge plants as well as trained specimens for tubs, etc." (Peter Bisset.)

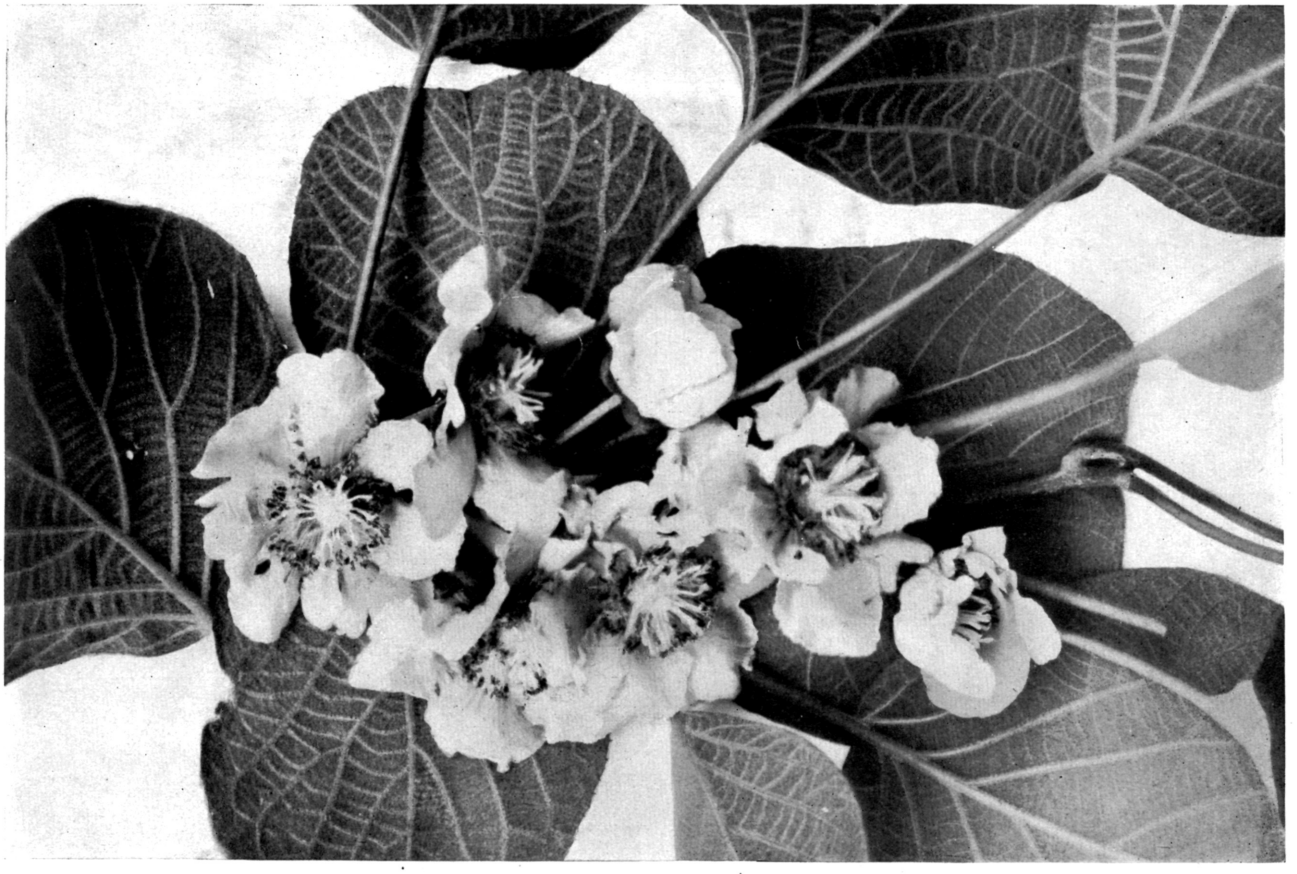
Gaya lyallii (Malvaceae), 48167. From Auckland, New Zealand. Seeds presented by Mr. H. R. Wright. "The giant-flowered southern lacebark, of New Zealand. This is without doubt the most beautiful of our hardy shrubs. It produces large clusters of pure white, cherrylike blossoms, hanging most gracefully on long stems. In colder parts this plant is deciduous. It is one of the easiest to cultivate, as it transplants easily and will grow from cuttings or seed." (Wright.)

Hordeum vulgare pallidum (Poaceae), 48092. **Barley.** From Johannesburg, Transvaal. Seeds purchased from the Agricultural Supply Association, through Mr. J. Burtt-Davy, botanist. "Cape Barley (Transvaal Early). This type of barley has been grown for generations in South Africa under unfavorable moisture conditions. Given better soil treatment and more moisture, it can be grown into a good, plump, heavy grain. It is used to some extent by local maltsters, but is more largely grown for horses and milch cows." (Burtt-Davy.)

Leptospermum scoparium nichollii (Myrtaceae), 48168. From Auckland, New Zealand. Seeds presented by Mr. H. R. Wright. A red-flowered variety of this very abundant tree or shrub, the beautiful colonial counterpart of the English broom or gorse, sometimes 30 feet in height. Early voyagers and colonists sometimes used its pungent leaves in place of tea. Indeed the whole plant, including leaves, flowers, fruit, and young shoots, is highly aromatic, and the oil which it contains will perhaps, in the future, be put to some useful purpose. The Maoris made their paddles and spears from the wood which is largely used for fences and firewood. A bunch of the twigs makes an excellent broom. (Adapted from Laing and Blackwell, Plants of New Zealand, p. 272.)

Metrosideros tomentosa (Myrtaceae), 48151. From Bay of Plenty, New Zealand. Seeds presented by Mr. Charles G. Hallet. "Seeds of a very ornamental tree, of a spreading nature, which grows along our northern coasts. In midsummer, it is covered with crimson flowers which secrete large quantities of light-colored, mild-flavored nectar. The tree makes a good windbreak, withstanding gales and salt spray splendidly; the crooked limbs are much used for knees and cleats in boat-building. The tree is probably as sensitive to frost as the fig or the lemon. Collected at Napier." (Hallet.)

Pistacia atlantica (Anacardiaceae), 48163. From Tripoli, Libya. Seeds presented by Dr. E. O. Fenzi, director, Stabilimento Orticolo Libico. A tree, native to northwestern Algeria, 30 to 50 feet in height, with many woody branches in a dense head. The blue drupe is somewhat fleshy and about the size of a pea. The tree is frequently found in sandy uncultivated fields not far from the city of Cafsa, and seems to have been cultivated at one time by the inhabitants. A resinous gum flows from the bark of the trunk and branches at various times of the year but especially in summer, and when hard is pale yellow color. It has a pleasant aromatic odor and taste, scarcely distinguishable from the oriental mastic gum, and called by the same name, Heulc, by the Moors. It thickens in plates covering the branches, or in irregular masses differing in thickness and shape, often the size of a finger. Some of these become detached from the tree and are scattered on the ground. The Arabs collect this substance in autumn and winter and chew it to whiten the teeth and sweeten the breath. (Adapted from Desfontaines, Flora Atlantica, vol. 2, p. 364.)



A PERFECT-FLOWERED FORM OF THE YANGTAO. (ACTINIDIA CHINENSIS. SEE S. P. I. NO. 46124.)

This attractive Chinese vine usually bears pistillate and staminate flowers on different plants, and both kinds of vines are needed to produce fruit. Occasional plants, such as the one shown above, bear perfect flowers, both the stamens and pistils being well developed in each flower. (Photographed by Mr. Peter Bisset at the Rare-Plant Gardens, Pasadena, Calif., June 10, 1918; P24066FS. See also Plant Immigrants No. 140, page 1255, for a description of the fruit.)

Pl. 252.

A NEW VARIETY OF THE PAPAYA. (CARICA PAPAYA. SEE S. P. I. NO. 44110.)

"An entirely distinct variety of the papaya raised in the garden of A. W. Reed, manager of the Western Union Telegraph Co., Brownsville, Tex., said to come from Mexico, and sent to the Office of Foreign Seed and Plant Introduction by Mr. Louis Cobolini, of the Board of City Development, of Brownsville, to whom the fruit was presented. The almost black color around the stem and the distinct yoke distinguish this variety from any others which I have ever seen." (Fairchild.) (Photographed by Mr. E. C. Crandall, November 8, 1916; P20106FS.)

Protea lepidocarpodendron (Proteaceae), 48184. From St. Vincent, Cape Verde Islands. Seeds collected by Dr. H. L. Shantz, agricultural explorer. "No. 27. This is one of the most striking plants of the genus. The unusually beautiful flowers are grouped into large heads 3 inches long, and when open are 4 to 6 inches across. The black-tipped, light purple bracts, which appear like velvety petals fringed with long black silky hairs, produce a very pleasing effect; I doubt if a more attractive ornamental could be grown. This plant grows well from seed. It should grow in the leached soils of Southern California; there is, however, little lime in the soil where it grows naturally, and it should be tried in acid soil." (Shantz.)

Raphia vinifera (Phoenicaceae), 48146. **Wine palm.** From Aburi, Gold Coast, West Africa. Purchased from the Agricultural Department of the Gold Coast Colony, Ashanti, and Northern Territories. The bamboo or wine palm, so called because the natives make wine from the sap of the trunk, is native to west and central tropical Africa, and is the commonest tree in the swamps and low lands which line the waterways. Dense thickets of these graceful palms, traversed only by the palm-wine gatherer or the bamboo cutter, push their way into the lagoons and extend over the flood grounds and even for a distance of from 15 to 20 miles up the river valleys into the interior. African bass, a valuable brush fiber, and raffia are both obtained from this palm. The strong whalebonelike bass fiber contained in the lower portions of the leafstalks, is very easily extracted by a simple process of soaking and beating. The fiber so obtained is excellent for the manufacture of brooms and brushes. Raffia is prepared by peeling off the cuticle, with some of the underlying fibrovascular bundles, on one or both sides of the leaf. It is used locally for woven fabrics, hats, and matting. The loose strips of raffia are in demand as tie-bands by gardeners. In length of fiber, but more especially in yield of cellulose, it is superior to Esparto grass, *Stipa tenacissima*, which is valuable for making rope, brooms, baskets, paper, etc. The following analysis proves the worth of *R. vinifera* for paper-making:

Moisture	9.8 per cent.
Ash	2.7 " "
Cellulose	60.8 " "
Ultimate fibers (length)	1.5 to 2.5 mm.

(Adapted from Kew Bulletin of Miscellaneous Informa-

tion, 1895, p. 88; and Jackson, Journal of the African Society, vol. 1, p. 299.)

Rosa coriifolia (Rosaceae), 48086. **Rose.** From Bell, Md. Presented by Dr. Walter Van Fleet. "Var. Frobeli. A promising rose for budding or grafting stock. This rose has been introduced through several sources under the name of *Rosa laxa.* It was grown at the Arnold Arboretum under *R. laxa* for several years. *R. coriifolia* is related to the common dog rose, *R. canina.* It is a strong grower with upright and nearly smooth stems; The flowers are white,— the fruit, globose and red. The vigor and hardiness, together with its upright and nearly smooth stems and lack of suckers, make it a promising plant for a stock. It seeds readily and prolifically and the seedlings come very true. Fruiting plants are to be found at the Arnold Arboretum, Boston, Mass., and in the collections of Dr. W. Van Fleet, Bell Station, Md. The rose appears to be perfectly hardy and very resistant to the attacks of mildew." (Galloway.)

Secale cereale (Poaceae), 48096. **Rye.** From Johannesburg, Transvaal. Seeds purchased from the Agricultural Supply Association, through Mr. J. Burtt-Davy, botanist. "Orange Free State Rye. A strain of rye-corn which has become adapted to the droughty conditions of the Orange Free State, where it is often grown on the eastern borders with the sole aid of the sparse winter rains. Lack of winter moisture accounts for the rather poor development of the grain." (Burtt-Davy.)

Notes on Behavior of Previous Introductions.

The following report was received June 2, 1919, from Mr. Paul Phillips, of Orlando, Fla. "I had ripe fruit on some plants of *Carica papaya* (S. P. I. No. 44942) in less than a year from the time of planting the seed. One plant had 60 fruits at one time, some of which weighed over 7 pounds. I have sold 293 fruits for $133.00 [average price 45¢ apiece.]"

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION
WASHINGTON, D. C.

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